

REMARKS

In this paper, claims 37, 40, 42, 44, 49, 50 and 73 are amended; claims 38, 39 and 74 are canceled; and claims 75-79 are added. After entry of the above amendment, claims 1-37, 40, 42, 44-61, 63-65, 67-71, 73 and 75-79 are pending, and claims 38, 39, 41, 43, 62, 66, 72 and 74 have been canceled.

Claim 37 has been amended to delete the biasing mechanism and the adjustment mechanism added in the previous amendment. The reference to the cable support extending from a surface of the caliper housing and not being adjustable relative to the surface of the caliper housing also has been deleted. A new feature has been added in that the second portion of the guide surface is formed by a projection that points in a rotational direction of the actuating arm towards the cable support where the cable passes through the cable support such that the cable is supported on and by the protuberance. Support for this feature may be found in Figs. 4 and 44 which show how the second portion of the guide surface is formed by a projection (98i) that points in a rotational direction of the actuating arm towards a cable support (44) where a cable (25a) passes through cable support (44). Fig. 4 shows cable (25a) supported on and by projection (98i).

Claim 37 has been further amended to clarify that the projection includes (1) a radially outer portion having a first surface that forms the second portion of the guide surface, wherein the first surface extends towards the cable support, and (2) a radially inner portion having a second surface that extends away from the cable support back towards a side surface of the actuating arm. A straight phantom line perpendicular to the first surface where the cable is supported on the first surface intersects the second surface. Support for these features may be found in Fig. 4 which clearly shows elements (1) and (2). It is also apparent from inspection of Fig. 4 that a straight phantom line perpendicular to the first surface where the cable is supported on the first surface would intersect the second surface.

Claim 40 has been amended to depend from claim 37, since claims 38 and 39 have been canceled.

Claims 42 and 44 have been amended to depend from new claims 77 and 78, respectively. The subject matter of new claims 77 and 78 previously was recited in claim 37 from which claims 42 and 44 previously depended.

Claims 49 and 50 have been amended to delete the recitation of the actuating arm rotating around a rotational axis, since that feature already is recited in parent claim 37.

Claim 73 has been converted from an independent claim to a dependent claim that depends from claim 37.

Support for the subject matter recited in new claim 75 may be found in Fig. 4, wherein it should be apparent that a straight phantom line that originates from the rotational axis (A) would intersect the first surface and the second surface.

Support for the subject matter recited in new claim 76 may be found in Fig. 4 wherein it should be apparent that a circumferential width of actuating arm (98) measured circumferentially from one circumferential side surface of actuating arm (98) to an opposite circumferential side surface of actuating arm (98) is less than a radial length of actuating arm (98) measured in a straight line from rotational axis (A) to the location where cable (25a) leaves the guide surface.

Support for the subject matter recited in new claim 77 may be found in Figs. 5 and 6 which show a biasing mechanism (99) that applies a biasing force between caliper housing (30) and actuating arm (98).

Support for the subject matter recited in new claim 78 may be found in the specification at column 10, lines 55-67 and Figs. 4, 7 and 48-51 which describe an adjusting mechanism (56, 99, 102) that adjusts the biasing force applied between caliper housing (30) and actuating arm (98).

Support for the subject matter recited in new claim 79 may be found in the specification which describes a cable disc brake for a bicycle comprising a caliper housing ((30), Fig. 4) with a cable support ((44), Figs. 4 and 7) having an opening (72) for guiding a cable (25a) therethrough; a first friction member (left side member (32), Fig. 6) coupled to caliper housing (30) for movement between a release position and a braking position as described at column 11, lines 12-29; a second

friction member (right side member (32) in Fig. 6) coupled to caliper housing (30) and arranged substantially parallel to first friction member (32) as shown in Fig. 5 to form a rotor receiving slot therebetween; and an actuated mechanism movably coupled to caliper housing (30) to move first friction member (32) in an axial direction from the release position towards second friction member (32) to the braking position as described at column 11, lines 12-29. The actuated mechanism comprises an elongated actuating arm ((98), Figs. 4 and 44) rotatably coupled to caliper housing (30) to cause the actuated mechanism to move first friction member (32) from the release position towards the braking position, wherein actuating arm (98) has a curved guide surface (the surface pointed to by the lead line for reference number (98i)) with a first portion (the portion containing opening (98g) in Fig. 44) coincident with a cable clamp (103) and a second portion (pointed to by the lead line for reference number (98i)) that extends from the first portion towards cable support (44) as shown in Fig. 4 so that cable (25a), when coupled to cable clamp (103), approaches guide surface (98i) from opening (72) in cable support (44) essentially tangent to guide surface (98i) and is supported by guide surface (98i) when first friction member (32) is in the release position. It should be apparent from Fig. 4 that a circumferential width of actuating arm (98) measured circumferentially from one circumferential side surface of actuating arm (98) to an opposite circumferential side surface of actuating arm (98) is less than a radial length of actuating arm (98) measured in a straight line from rotational axis (A) to the location where cable (25a) leaves the guide surface.

Claims 1-40, 42, 44-61, 63-65, 67-71, 73 and 74 were rejected as being based on a defective reissue oath under 35 U.S.C. §251. The applicant requests deferment of the filing of a corrected reissue oath until the application is allowed.

Claims 37-40, 42, 44, 50-56, 69-70, 73 and 74 were rejected under 35 U.S.C. §103(a) as being unpatentable over Di Bella (US 6,206,144) in view of Carre, et al (US 4,582,177). This basis for rejection is respectfully traversed.

Claim 37 has been amended to delete the formerly recited biasing mechanism and adjustment mechanism and to clarify how the second portion of the guide surface is formed by a projection that points in a rotational direction of the actuating arm towards the cable support where the cable passes through the cable support such that the cable is supported on and by the projection. Similar subject

matter appeared in former claim 38, now canceled. The projection includes (1) a radially outer portion having a first surface that forms the second portion of the guide surface, wherein the first surface extends towards the cable support, and (2) a radially inner portion having a second surface that extends away from the cable support back towards a side surface of the actuating arm. Similar subject matter appeared in former claim 39, now canceled. A straight phantom line perpendicular to the first surface where the cable is supported on the first surface intersects the second surface.

Di Bella discloses a bicycle brake system comprising a caliper body (16) that supports an external brake lining (37) and an internal brake lining (40). A piston (36) is disposed within caliper body (16), wherein piston (36) moves axially in response to rotation of a control lever (20) to move external brake lining (37) toward internal brake lining (40), thereby applying a frictional force to a brake disc (1). Control lever (20) has a groove (21) for accommodating a control cable (22), wherein control cable (22) is attached to groove (21) by a bolt (101). Control lever (20) is locked to a screw (19) by a nut (30), wherein screws (19) is attached to a hollow body cam member (32) that presses against piston (36) to cause the axial movement of external brake lining (37) when control lever (20) is rotated. The rotational position of control lever (20) relative to screw (19), and thereby hollow body cam member (32), may be adjusted by loosening nut (30), changing the position of control lever (20) relative to screw (19) and retightening nut (30).

Di Bella neither discloses nor suggests a projection that includes (1) a radially outer portion having a first surface that forms the second portion of the guide surface, wherein the first surface extends towards the cable support, and (2) a radially inner portion having a second surface that extends away from the cable support back towards a side surface of the actuating arm. However, the office action states that Carre, et al discloses this feature.

Carre, et al discloses a braking device with mechanical actuation. The braking device comprises a brake motor (10) and a control jack (30). A cam-shaped member (50) is keyed on the output shaft of brake motor (10), and a control cable (52) is retained to cam-shaped member (50) by a cable connector (56) and a retaining lug (58). The office action alleges that the portion of cam-shaped member (50) where control cable (52) leaves cam-shaped member (50) forms a projection as recited in former claims 38 and 39. While the applicant disagrees, claim 37 has been amended to

clarify that a straight phantom line perpendicular to the first surface of the projection where the cable is supported on the first surface of the projection intersects the second surface that extends back towards a side surface of the actuating arm. Carre, et al neither discloses nor suggests such a feature. Thus, neither Di Bella nor Carre, et al discloses or suggests the subject matter recited in amended claim 37.

As for claim 44, the office action alleges that nut (30) adjusts the biasing force of a spring (100) by moving actuating arm (20) axially, thereby moving the first end of spring (100) relative to the second end of spring (100). That is not true. Actuating arm (20) cannot move axially because dust cap (31) acts as a spacer between actuating arm (20) and caliper body (16). Thus, Di Bella neither discloses nor suggests the subject matter recited in claim 44.

As for claim 53, both Di Bella and Carre, et al disclose the cable support well *forward* of the rotational axis of the actuating arm. Thus, neither Di Bella nor Carre, et al discloses or suggests the subject matter recited in claim 53.

As for new claim 75, neither Di Bella nor Carre, et al discloses or suggests wherein a straight phantom line that originates from the rotational axis intersects the first surface and the second surface of the projection that supports the control cable.

As for new claims 76 and 79, when Carre, et al's cam member (50) is substituted for Di Bella's control lever (20), the resulting structure will not have the feature wherein a circumferential width of the actuating arm measured circumferentially from one circumferential side surface of the actuating arm to an opposite circumferential side surface of the actuating arm is less than a radial length of the actuating arm measured in a straight line from the rotational axis to the location where the cable leaves the guide surface.

Claims 45, 46 and 57-60 were rejected under 35 U.S.C. §103(a) as being unpatentable over Di Bella in view of Carre, et al and Mott (US 5,201,402). This basis for rejection is respectfully traversed for the same reasons noted above.

Claims 47 and 71 were rejected under 35 U.S.C. §103(a) as being unpatentable over Di Bella

in view of Carre, et al and Toyomasu (US 3,765,511). This basis for rejection is respectfully traversed for the same reasons noted above.

Claims 48 and 49 were rejected under 35 U.S.C. §103(a) as being unpatentable over Di Bella in view of Carre, et al and Tsai (US 5,979,609). This basis for rejection is respectfully traversed for the same reasons noted above.

Accordingly, it is believed that the rejections under 35 U.S.C. §103 have been overcome by the foregoing amendment and remarks, and it is submitted that all pending claims are in condition for allowance. Reconsideration of this application as amended is respectfully requested. Allowance of all claims is earnestly solicited.

Respectfully submitted,



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